Connecticut State Colleges & Universities Employment & Wages Summary Report

Graduates from 2009-10 to 2016-17

P20·WIN
Connecticut's Preschool–20 and Workforce Information Network

Contents

Introduction

The correlation between education and employment opportunity is undeniable; however, communication about the benefit of education beyond high school and corresponding value in the labor market is uneven. National advocacy groups promote research findings and policy recommendations with a broad national focus. These are important for understanding trends, yet local administrators and students need information about the outcomes of local education programs. This report attempts to fill gaps and support local discussion about employment trends for graduates of academic programs at the Connecticut State Colleges and Universities (CSCU). CSCU includes the twelve Connecticut Community Colleges (CCC or CC), the four Connecticut Universities (CSU) and Charter Oak State College (COSC).

The primary audience for this report includes the Connecticut Higher Education Coordinating Council (HECC), college and university administrators and the public, especially high school students and guidance counselors. The HECC should review this report along with data about outcomes from the University of Connecticut and all Connecticut public institutions of higher education to understand patterns in employment and wages across the state. CSCU college and university administrators will find value in this report and accompanying data for program evaluation and improvement purposes. Additional details necessary for accreditation reports or other nuanced purposes can be obtained directly from CSCU Institutional Research Directors. Most importantly, this report and accompanying on-line [forthcoming] data visualizations are designed to help students understand typical outcomes of different academic programs and credential types for recent graduates working in Connecticut.

This report will 1) supply definitions of the data fields in the tables that underpin this summary, 2) document the limitations and boundaries for this data and most importantly, and 3) review summary employment and wage data for eight years of graduates from CSCU institutions and demonstrate the value of CSCU credentials and degrees. Data are included for students who graduated during academic years of 2009-10 to 2016-17. There is more employment information about earlier cohorts of graduates than for the more recent years simply because earlier graduates have had longer to participate in the workforce. See Appendix A for a chart showing available quarters of wage data. The sections on methodology and the data dictionary are available for those wishing to dig into the details. However, everyone should attend to the “Important Notes” section in order to understand the limitations of the data. More data are available than can be completely or adequately captured by this written documentation, so readers are encouraged to visit the website and download the source data tables for further exploration.

Data for this analysis were obtained through Connecticut’s Preschool through Twenty and Workforce Information Network (P20 WIN), http://www.ct.edu/p20win. P20 WIN is Connecticut’s inter-agency collaborative that links education and workforce data to help improve education programs and workforce alignment in Connecticut. Connecticut agencies participating in P20 WIN include the Office of Early Childhood (OEC), the State Department of Education (SDE), the CT State Colleges and Universities (CSCU), the University of Connecticut (UConn), the Connecticut Conference of Independent Colleges (CCIC), the Connecticut Department of Labor (DOL) and the Office of Policy and Management (OPM). It is through the engagement of staff at these agencies that CSCU is able to provide this information.

Important Notes & Limitations

1. **Who is counted as a graduate:** Individuals are counted as graduates if they completed a credential during academic years 2009-10, 2010-11, 2011-12, 2012-13, 2013-14, 2014-15, 2015-16 or 2016-17. The count of graduates includes all students regardless of whether they were enrolled as full-time, part-time, 1st time or any other typical enrollment category. All credentials offered were included: certificates (both undergraduate and graduate), associates, bachelors, masters and doctoral degrees.

2. **Who is counted as employed:** Individuals are counted as employed and appear in the metrics about employment (e.g. Percent employed at Post-Q1) only if they were found to be employed in Connecticut. Individuals who are working out of the state are not included in these data. For institutions that have significant populations of students from other states (e.g. Charter Oak State College, Asnuntuck Community College, Southern and Western State Universities), there is a greater likelihood that these out of state students also find employment outside of Connecticut, and therefore, are not represented in this wage data.

3. **Who is not counted:** The employment and wage record data only include employees who work for employers in CT that are covered by Unemployment Insurance (UI) law. Major exclusions from these data include those who are self-employed, all members of the Armed Forces, elected officials in most states, most agricultural workers on small farms, most employees of railroads, some domestic workers, most student workers at schools and employees of some types of non-profit organizations[1]. According to the DOL, UI covered jobs generally include approximately 95% of wage and salary positions in the labor market.

4. **Employment counts under-represent reality:** Employment counts under-represent the true number of employed graduates for several reasons: 1) Unemployment Insurance data exclude some classes of employees (see note above for 'Who is not counted'), 2) Unemployment Insurance data to which DOL has access does not include CT residents who work in other states, and 3) matches between education and UI records cannot be made for students who do not have valid Social Security Numbers (SSNs) on file. CSCU System Office staff estimate that 1% of records used for these reports have missing or invalid SSNs.

5. **Level of wages under-represent typical annual salaries:** The wage data DOL receives from employers includes everyone whether they worked full-time, part-time or intermittently (e.g. someone who starts or stops a job mid-quarter), and it does not include the number of hours or weeks individuals worked. Since they cannot be distinguished, employment metrics in this report combine data for everyone employed. Therefore, the total average wages reported for any given quarter are lower than what one would expect to earn if everyone in the calculation worked full-time and for all business days within the quarter.

6. **One cannot calculate 'Unemployed' from these data:** It is not accurate to calculate the number of individuals who are unemployed by subtracting the number of employed from the number of graduates. Individuals who are actively working may not be captured as employed because they are either working out of state or because their job is not covered by Unemployment Insurance (UI) law which is the source of wage and employment data for this report. In addition, those not working may be doing so voluntarily and therefore would not be counted in the labor force.

7. **Small variations with IPEDS:** The sources for student data used in these reports were the CCC College Institutional Research Database (IRDB) and the CSU Institutional Research Repository (IR Repository). Occasionally there are minor differences between the number of graduates reported to the Integrated Postsecondary Education Data System (IPEDS) and the number recorded in the IRDB and IR Repository. These differences stem from variations in institutional processes for reporting completion data.

[1] "Frequently Asked Questions." *U.S. Bureau of Labor Statistics*. U.S. Bureau of Labor Statistics, n.d. Web. 20 Oct. 2014. http://www.bls.gov/cew/cewfaq.htm#Q14

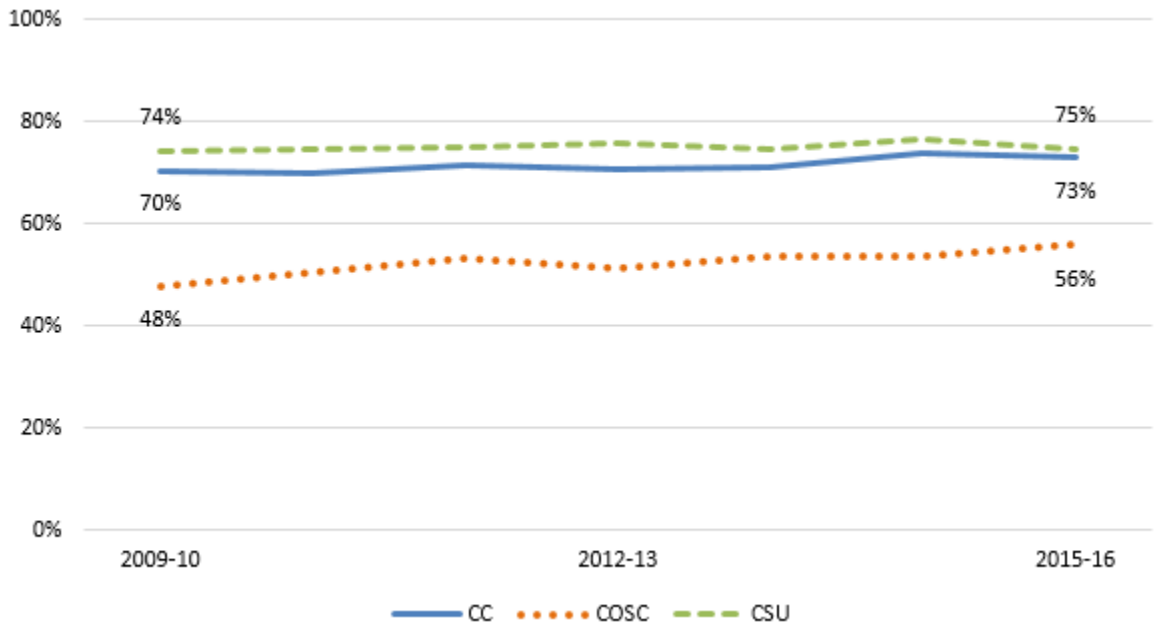
Findings & Graphs

These findings are provided to give a broad view into the employment and wage patterns of CSCU graduates from the system level and to pique your interest to look further into the available data. There is considerable value in the underlying data for the individual institutions. Proceed to data at http://www.ct.edu/p20win/requests#topic to access complete data tables.

Remember, employment data includes only those who work in Connecticut for an employer who is required to report wages to the Department of Labor under Unemployment Insurance law. Those who work for the military, who are self-employed or who work out of state are not included. See item number three under Important Notes and Limitations for additional detail on this point.

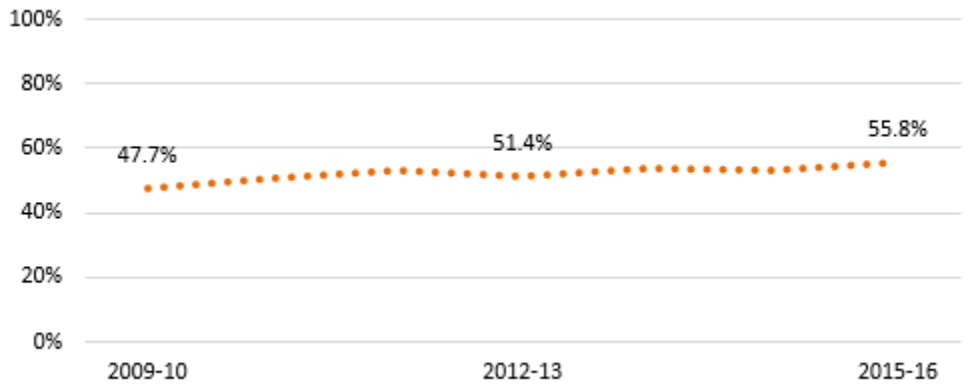
Key Points about Employment

- **The majority of CSCU students work in CT shortly after graduation.** CSU, CC and COSC graduates continue to find employment in CT. Overall employment rates three quarters after graduation are stable for CSU and CC graduates, and the percent of COSC graduates working in CT increased by 8% over the past 6 years. [F-2]

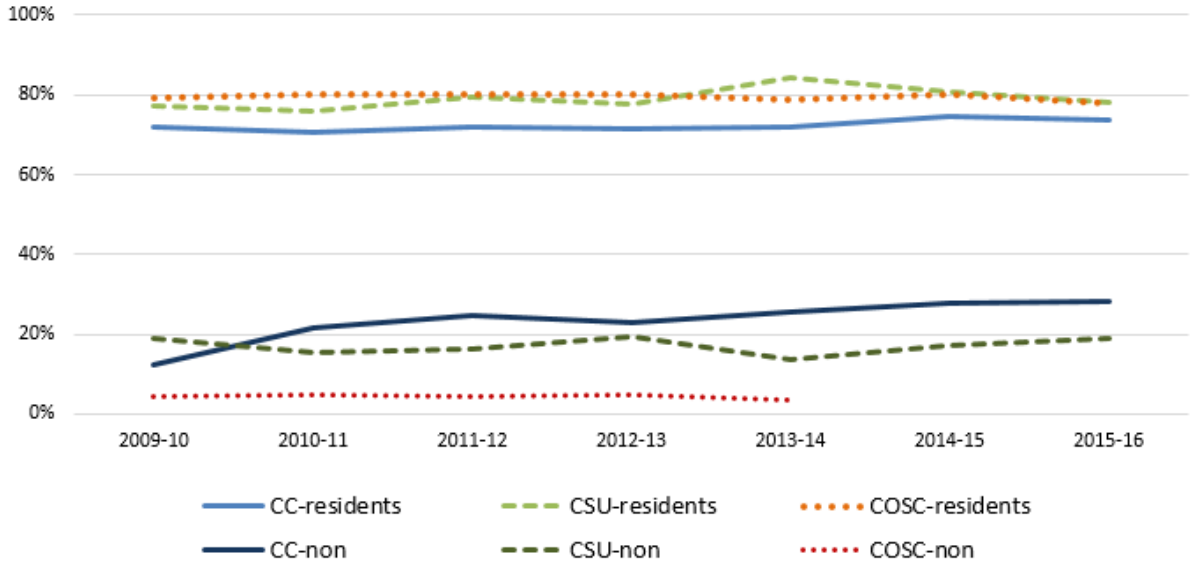


	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
CC	70.4%	69.9%	71.3%	70.6%	71.2%	73.7%	73.1%
CSU	74.3%	74.7%	75.1%	75.6%	74.4%	76.3%	74.7%
COSC	47.7%	50.4%	53.0%	51.4%	53.5%	53.4%	55.8%

- **An increasing percentage of COSC graduates are working in CT.** The overall percentage of COSC graduates found working in CT three quarters after graduation increased by 8% when you compare graduates from 2009-10 to those from 2015-16 academic years. [F-2 and F-3]

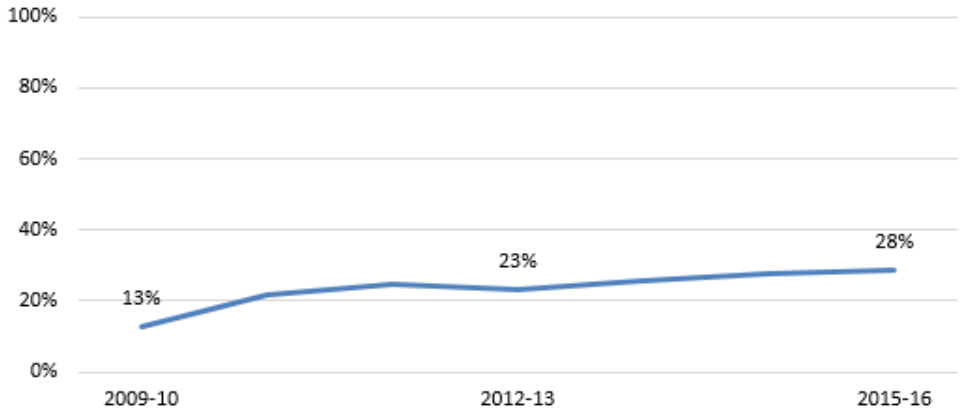


- **Students who live in CT are likely to work in CT too.** The majority of CSCU students who are CT residents stay in CT to work. In addition, portions of non-CT residents choose to work in CT as well. 78% of CSU and COSC graduates and 74% of CC graduates who are CT residents worked in CT shortly after completing their credential. This table shows the percent working in the third quarter after graduating. [F-1]

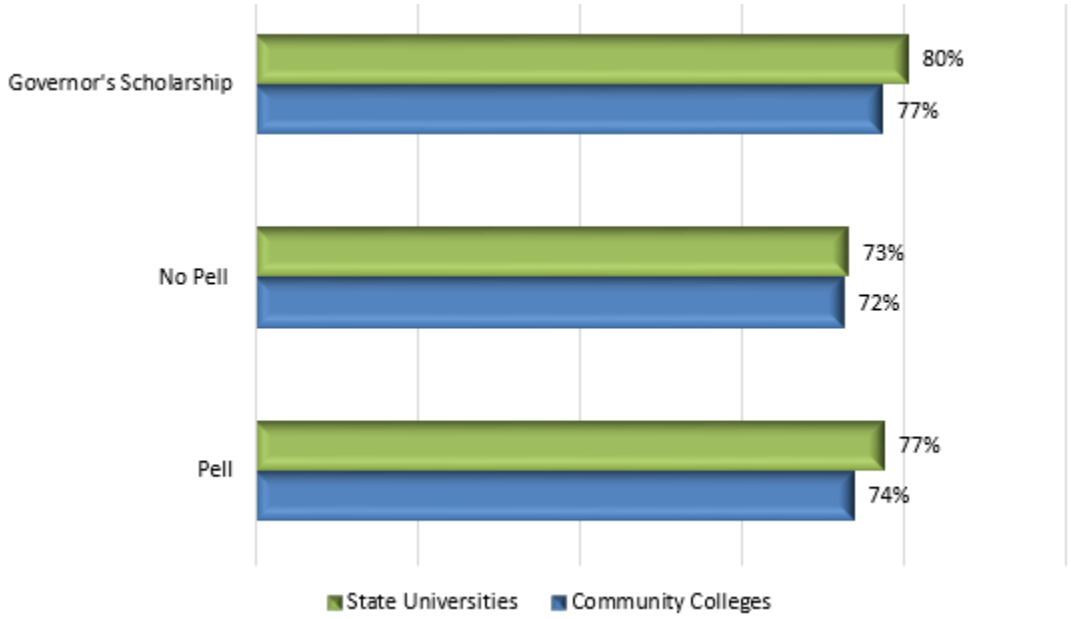


	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
CC-residents	71.8%	70.7%	72.0%	71.5%	71.8%	74.5%	73.8%
CSU-residents	77.1%	76.0%	79.6%	77.7%	84.1%	80.6%	78.3%
COSC-residents	79.3%	79.9%	80.2%	80.1%	78.9%	80.1%	78.1%
CC-non	12.5%	21.6%	24.7%	23.1%	25.8%	27.7%	28.4%
CSU-non	18.8%	15.4%	16.2%	19.4%	13.8%	17.3%	18.9%
COSC-non	4.5%	4.8%	4.2%	4.7%	3.3%	*	*

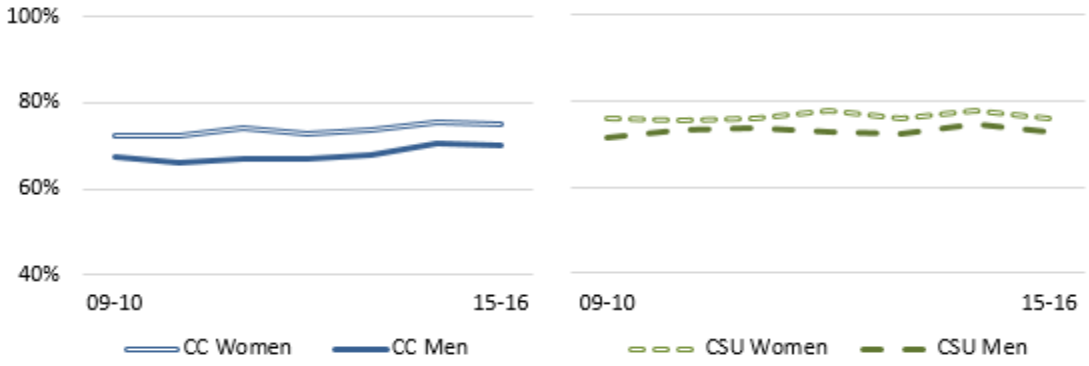
- **Some students who lived outside CT stay in CT to work after graduation.** An increasing percentage of Connecticut community college students with permanent addresses outside Connecticut are working in Connecticut after graduation. The percent of CC graduates that are not CT residents but are choosing to work in CT has increased by 15% from 2009-10 to 2015-16. [F-5]



- **The Governor's Scholarships provide value to students and the state.** Students who receive a Governor's Scholarship are slightly more likely to be working in CT three quarters after graduation than those who received a Pell grant. Students receiving a Governor's Scholarship may also receive a Pell grant, so these data do not imply that one form of financial aid is better than the other. Rather, the data simply show that the state's investment in Governor's Scholarships supports students who choose to find future employment in the state. [F-6]

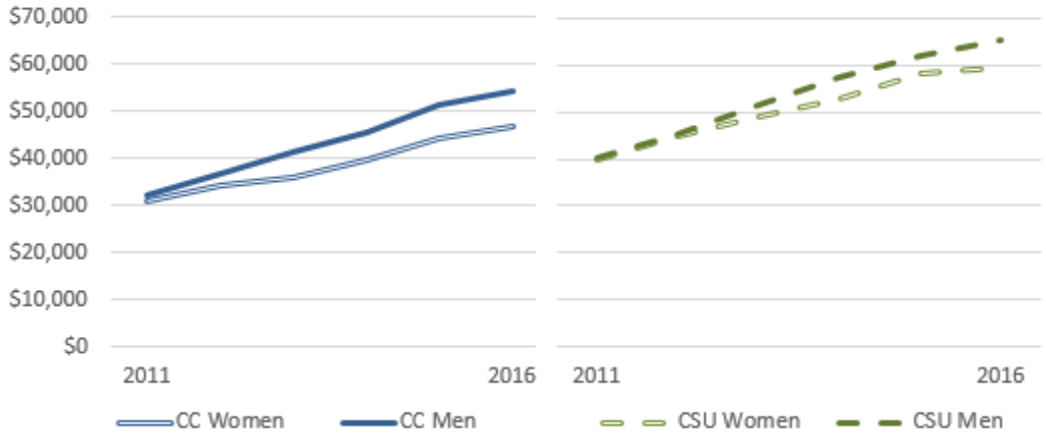


- **Female graduates are employed in CT at higher rates than men.** These two tables show the percent of CSCU male and female graduates across seven academic years who were employed in CT during the third quarter after graduation. Women tend to be employed in CT at slightly higher rates than men. [F-7]



	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
CC Women	72.2%	72.4%	74.1%	72.8%	73.5%	75.6%	75.1%
CC Men	67.2%	65.9%	66.8%	67.1%	67.8%	70.7%	70.2%
CSU Women	75.9%	75.6%	76.0%	77.5%	75.7%	77.7%	76.0%
CSU Men	71.5%	73.2%	73.7%	72.5%	72.2%	74.4%	72.6%

- **However, male graduates earn higher wages over time**. The tables below show the median wages earned by male and female graduates of the 2009-10 academic year over six years. Median wages for men are only slightly higher than for women during the first calendar year after graduation, but over time, the gap increases. For CT community college students, women make 95.7% of men's wages in 2011, but by 2016, women's wages are only 85.7% of what men earn. [F-7.5]

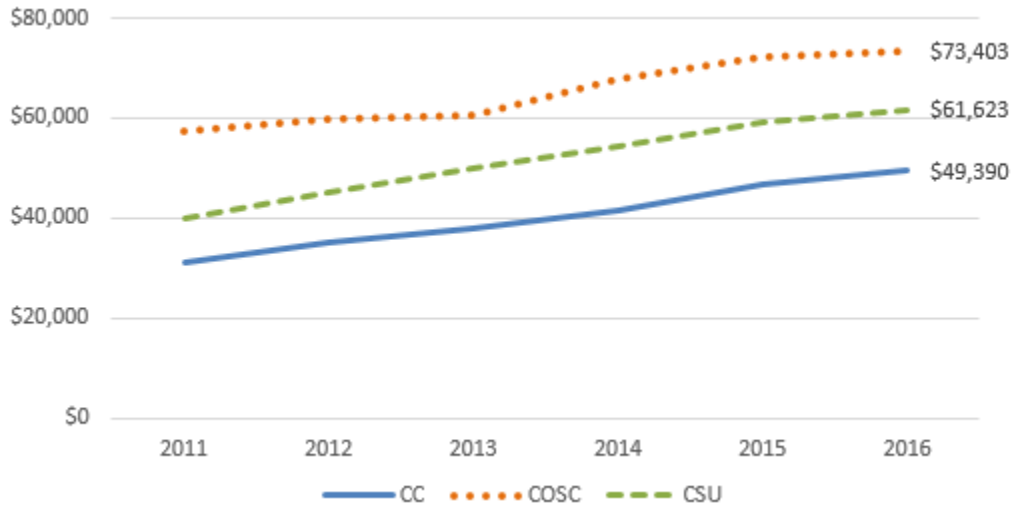


	2011	2012	2013	2014	2015	2016
CC Women	$30,674	$34,201	$35,876	$39,539	$44,127	$46,519
CC Men	$32,042	$36,733	$41,331	$45,597	$51,297	$54,285
CSU Women	$39,969	$44,898	$48,889	$52,948	$58,112	$59,650
CSU Men	$40,144	$45,254	$51,483	$57,294	$62,004	$65,373

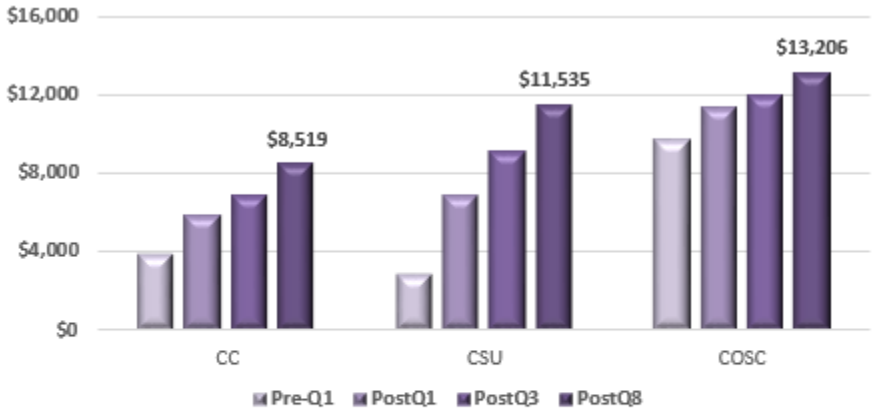
Key Points about Wages

As with the points above, earnings data are only included for those who received wages in Connecticut. The Department of Labor does not have data on individuals who work outside of Connecticut, who are self-employed, who work in the military or for a few additional categories of workers. See page four for details.

- **CSCU credentials have value in the CT marketplace over time.** Average annual wages for graduates of the 2009-10 academic year have increased steadily over the subsequent six years for each sector. [F-9c]

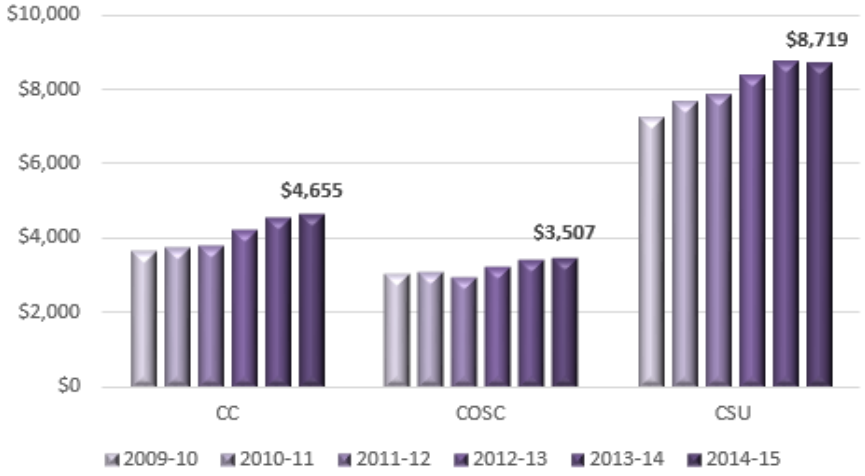


- **Wages for graduates increase in the short term.** When you compare median quarterly wages earned before students start their academic program to median quarterly wages earned in one, three and eight quarters after they complete their credential, wages consistently go up. Using graduates of the 2014-2015 academic year as an example, we see that median quarterly wages go up incrementally shortly after graduation. [F-9]

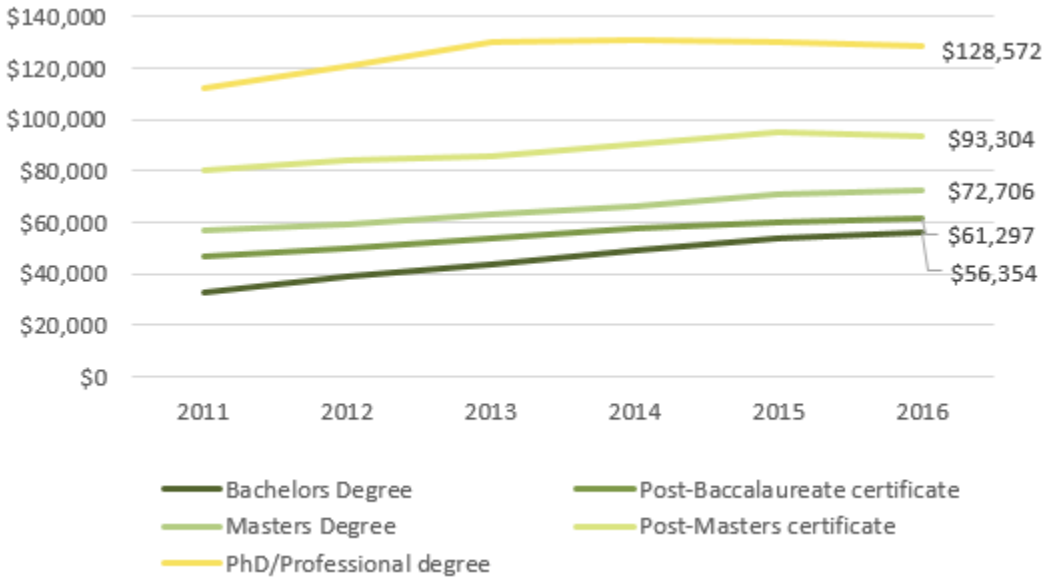


	Pre-Q1	PostQ1	PostQ3	PostQ8
CC	$3,865	$5,857	$6,964	$8,519
CSU	$2,816	$6,922	$9,162	$11,535
COSC	$9,700	$11,419	$11,997	$13,206

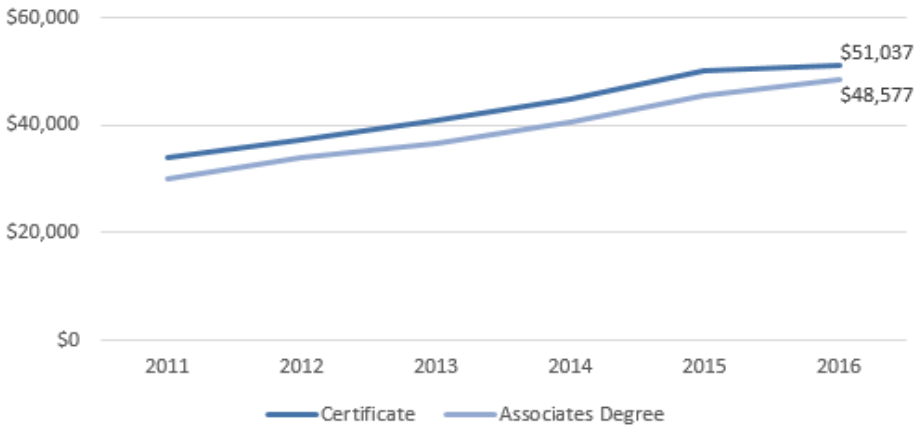
- **A CSCU education improves annual take home pay.** Increases in median wages are consistent for each year of graduates. The median wages students earn two years after completing their credential is higher than what they earned before they began their postsecondary education program. Using graduates of the 2014-15 academic year as an example, median quarterly earnings for CSU graduates increased by $8,719. Community College median quarterly wages increased $4,655, and median quarterly wages for Charter Oak graduates increased by $3,507. These increases have been getting larger over the past six years. The change for COSC is less when compared to CC and CSU graduates because COSC students typically have higher wages before attending COSC. Similarly, the change in wages for CSU graduates is higher than for CC and COSC because CSU students are commonly high school students who were either not working at all or who had lower paying jobs prior to starting their postsecondary education. [F-8]



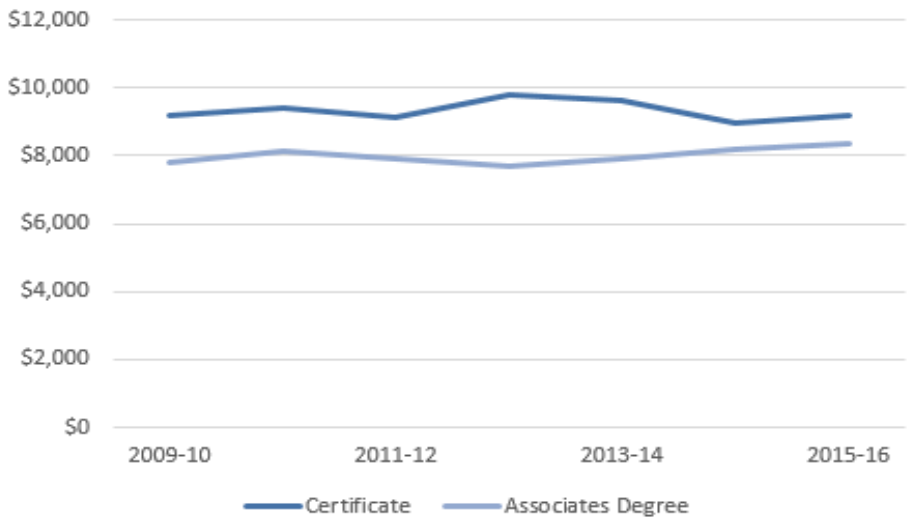
- **The higher the credential, the greater the wage**. For CSU graduates, credentials that require more time in school provide greater annual return. This charts shows median annual wages earned by CSU graduates of the 2009-10 academic year for six years after completion. [F-10]



- **Undergraduate certificates provide value.** Wages earned shortly after graduation by students who completed an undergraduate certificate are slightly higher than those who earned an Associate degree. This chart shows the actual annual wages earned by graduates of the 2009-10 academic year who received either an undergraduate certificate or associate degree. [F-10]

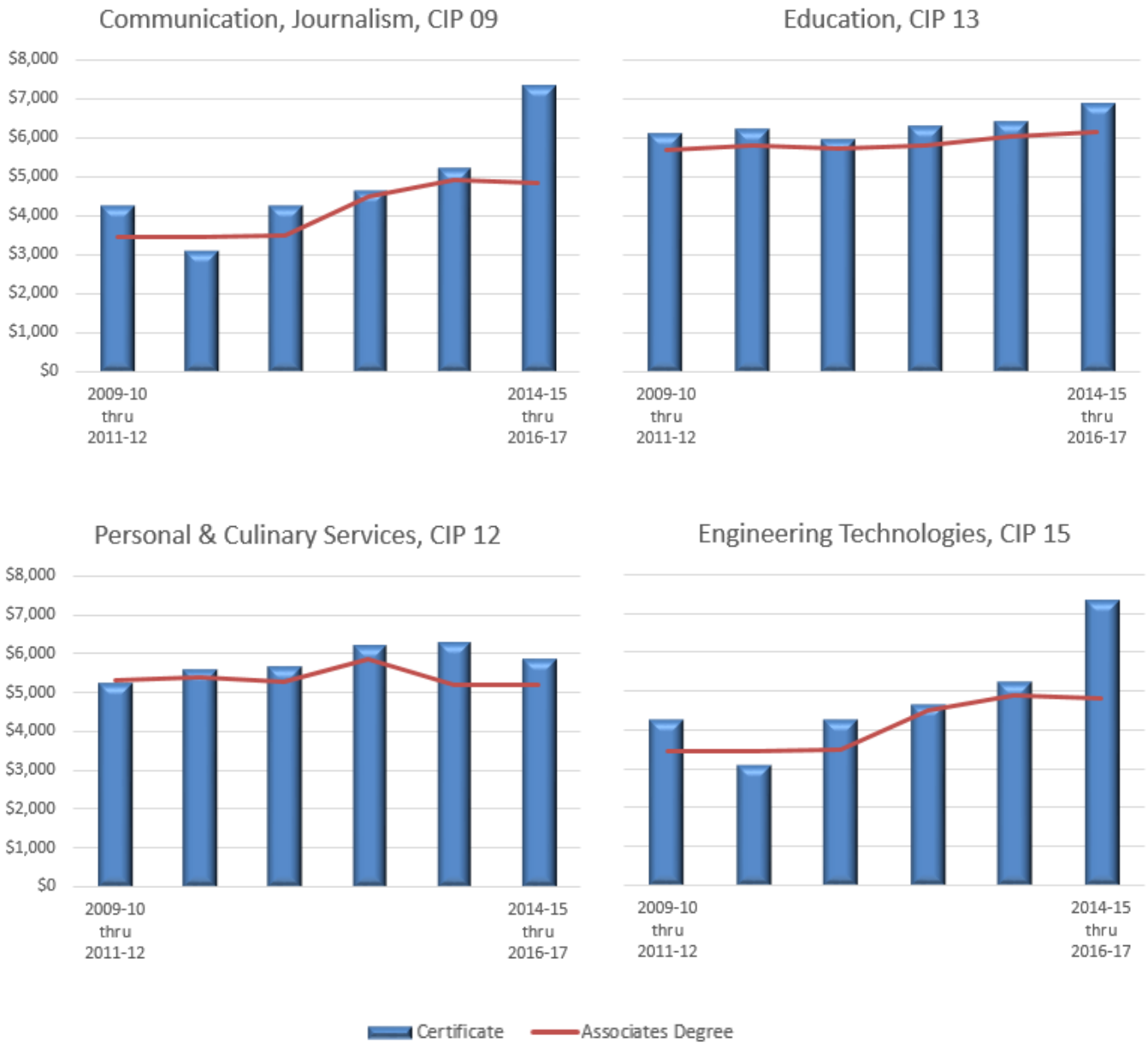


The short-term value of the undergraduate certificate is consistent for graduates of additional academic years as well. This chart shows the average quarterly wages earned three quarters after completion for CT community college graduates in 2009-10 through 2015-16. [F-11]

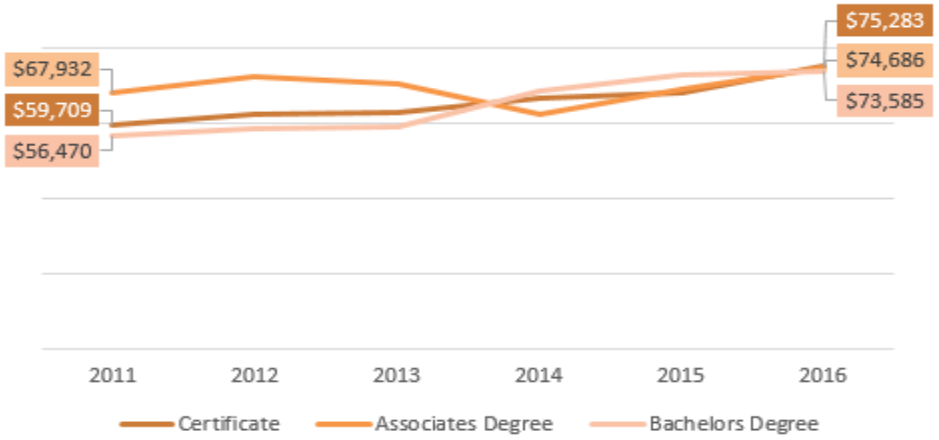


While there is evidence that the undergraduate certificate provides a valuable initial return to graduates, it is important to remember that research has shown that, in general, credentials requiring more education typically lead to higher wages on average. Over time, earnings of individuals with less education are less likely to keep pace with those who have completed higher degrees, and, historically, individuals with shorter-term credentials have been more susceptible to unemployment when the economy turns down. The report "Five Rules of the College and Career Game" by Anthony P. Carnevale and Ban Cheah, https://cew.georgetown.edu/cew-reports/5rules/ , provides valuable context for understanding this point. One should also note that it is possible that the high wages of a few certificate programs skew the results for certificates over all.

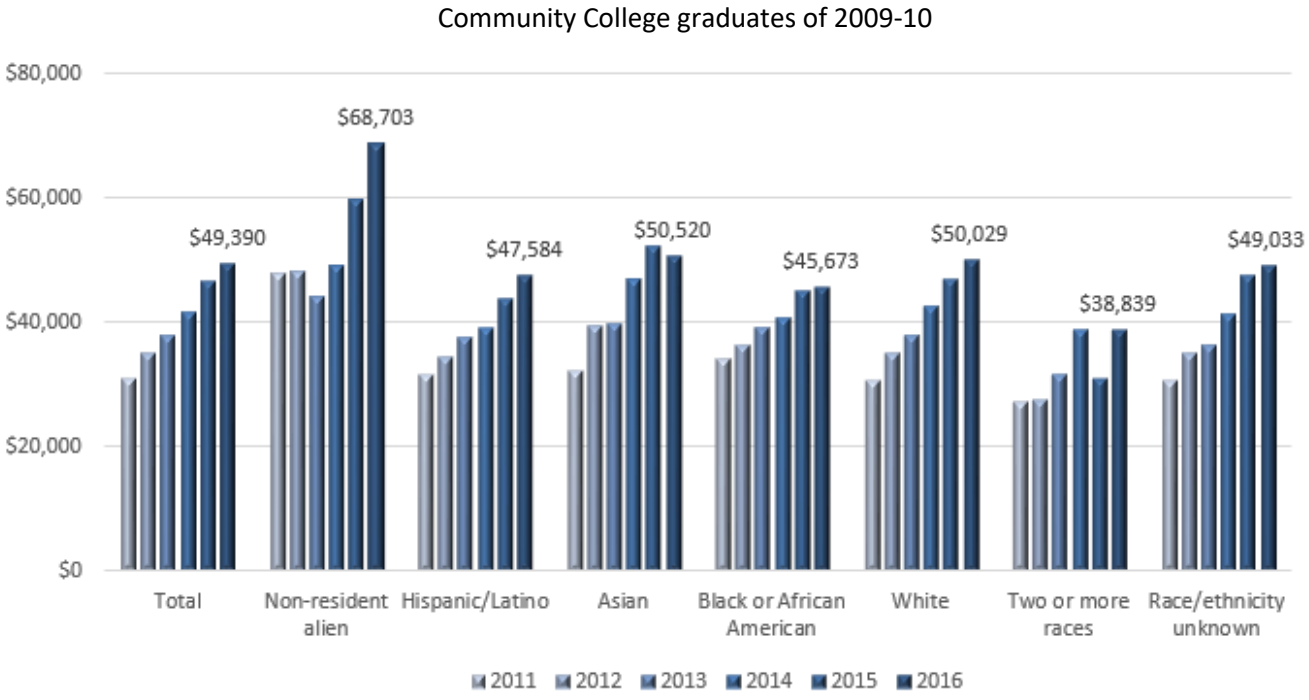
- **Only some certificates provide similar or greater wages than an associate degree.** While the total median and average wages for certificate holders is higher than for those who completed associate degrees in the 2009-10 academic year, this pattern is largely due to the presence of high wages from program areas where the certificate holds a strong value in the marketplace. These tables highlight four certificate programs that consistently provided a higher return than an associate degree for multiple cohorts of graduates during the third quarter after graduation. This standard is met only by programs in communications, education, personal & culinary arts, and engineering technologies. Most other certificates have not shown a consistently higher level of return. [F-12]



- **Work experience affects wages.** Students in COSC programs have a different profile than students at the CT community colleges and state universities. COSC students tend to be older, and therefore have more time to be in the workforce. 77% of COSC are over 30; whereas only 24% of CC students and 21% of CSU students are in that age bracket. Obtaining a credential enhances the earning power of COSC students; however, the trend over time is more complicated than for the other sectors. The chart shows that earnings for 2009-10 COSC graduates rose over the six years after completion; however, the distinction between wages of different credential types nearly disappeared in the sixth year. [F10]

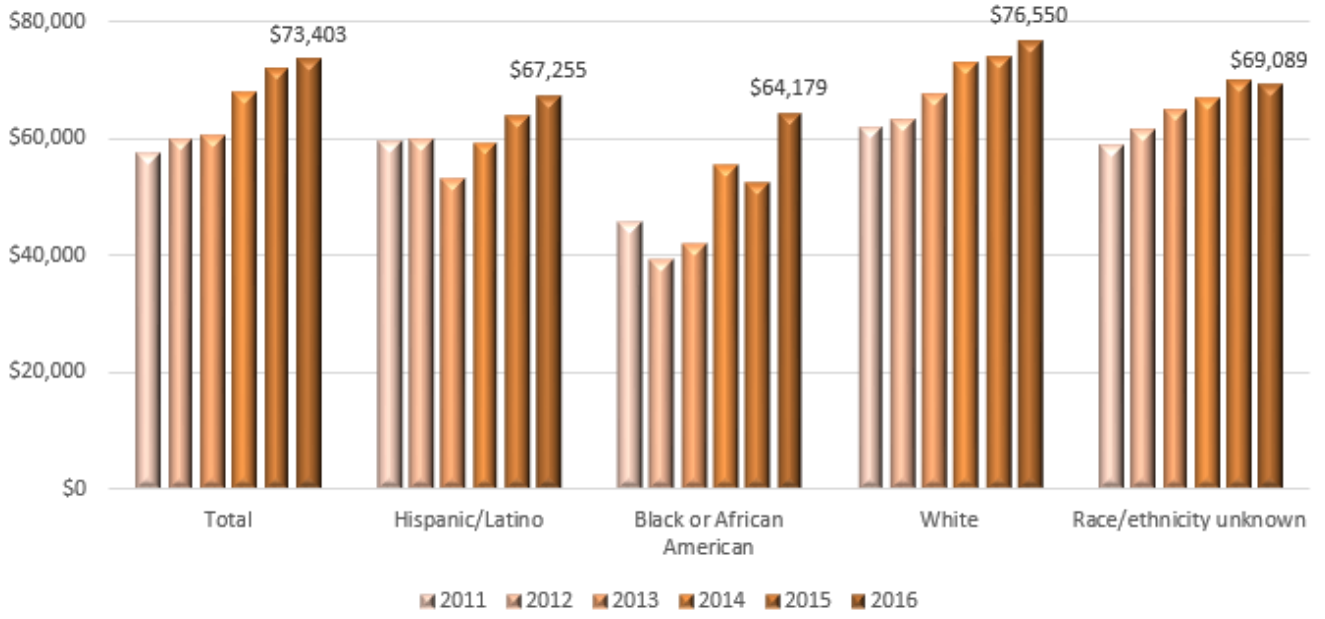


- **Median annual wages increase for demographic groups over time.** Returns for students graduating in 2009-10 steadily increased over six years for most demographic groups. An exception includes CT community college students who identify as "Two or more races." Wages also do not steadily increase for Hispanic and Black or African American students completing a credential from COSC in 2009-10. [F13c]



Connecticut State University graduates of 2009-10

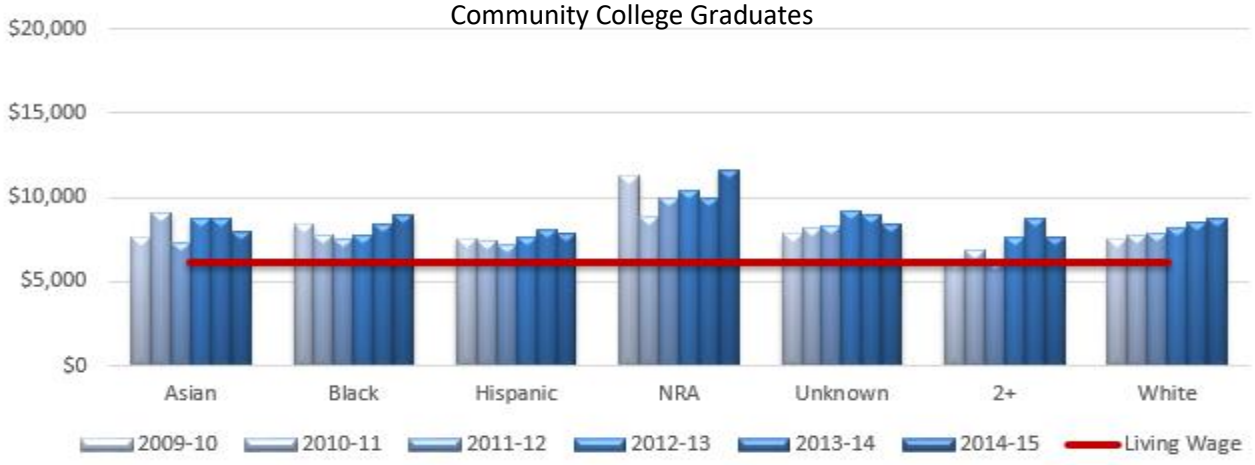
Charter Oak State College of 2009-10*



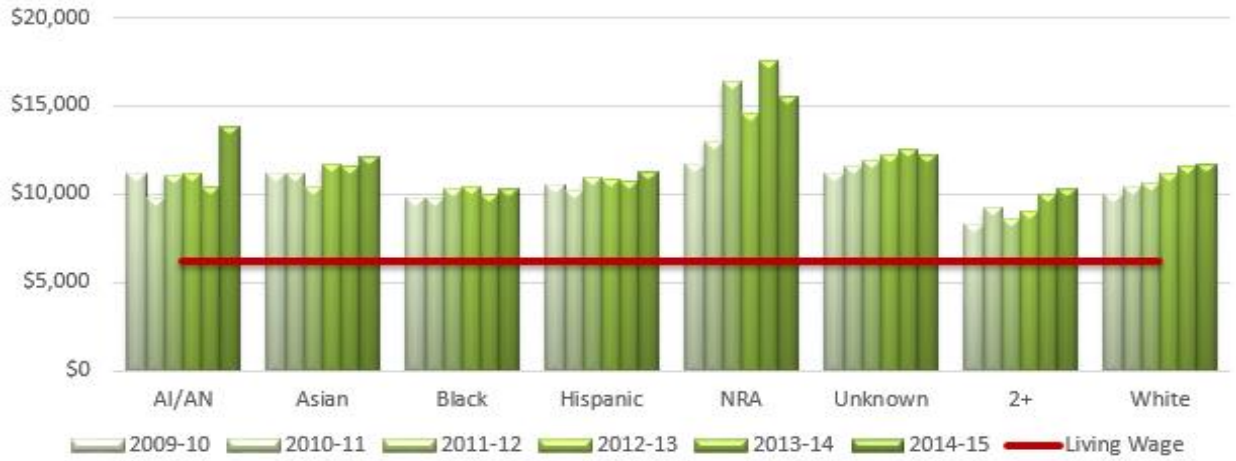
*COSC wages for demographic categories of Non-resident Alien, American Indian/Alaska native, Asian, Native Hawaiian/Pacific Islander and Two or More Races were suppressed due to small number of graduates in these categories.

- **Median wages exceed estimated "living wage" for Connecticut.** The following tables show median wages earned three quarters after students from six difference academic years graduated. Wages are compared to a "Living Wage" for a single adult living in Connecticut as estimated for 2017. The living wage calculation intends to show the wage that must be earned for an individual to support himself or herself if they are working full-time. This rate is updated annually by the Department of Urban Studies and Planning at the Massachusetts Institute of Technology. http://livingwage.mit.edu/states/09 [F-D]

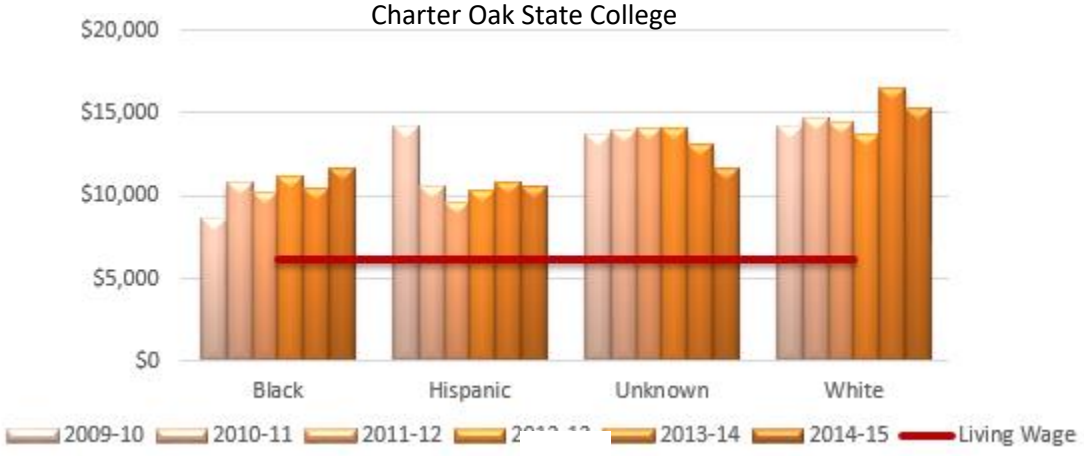
Community College Graduates



Connecticut State University Graduates



Charter Oak State College



Areas for Additional Exploration

The process of improving education programs requires an understanding of student outcomes. For CSCU leadership this includes analyzing employment and wage outcomes for program graduates. Institutions can review this report and the corresponding data tables to understand employment and wages by institution, by degree level and by education CIP code.

Readers should note that this report provides descriptive statistics about observations within the data. The key points presented are not based on a research program or academic study; therefore, the findings provided do not imply causality or statistical significance. Additional research needs to be conducted before policies are changed because of this information. Additional suggested areas for exploration include the following.

- To what degree are students pursuing continued education while they are working? Analysts could isolate and remove individuals from the data set who are working while in school to better understand employment outcomes based on completed credentials.
- What are the long-term employment and wage outcomes for liberal arts graduates compared to others?
- What is the effect of workplace experience on earnings after graduation?
- What are differences in employee retention over time by program?
- How do students completing non-credit programs, such as advanced manufacturing, fair in the workplace compared to those completing credit based programs?

Sources

Wage and employment data: The Connecticut Department of Labor Unemployment Insurance Program Data.

Student data: The Connecticut State Colleges and Universities Community College Institutional Research Data Base and the Connecticut State University Institutional Research Repository.

Data from CSCU and CT DOL were linked through the Connecticut Preschool through Twenty and Workforce Information Network (P20 WIN), http://www.ct.edu/p20win.

Methodology and Data Security

The employment and wage outcome reports referenced in this report were produced by CSCU and DOL to provide information about the degree to which students completing credentials from public postsecondary institutions in Connecticut are working in Connecticut during the initial years after program completion. Data show employment rates and wages earned by students completing undergraduate and graduate education programs by institution and by academic program from 2009-2010 through 2016-2017, as data were available when the data were matched.

Data were shared and linked using Connecticut's Preschool through Twenty and Workforce Information Network (P20 WIN) and the P20 WIN Data Request and Management Procedure. This procedure is a component of the data sharing agreement between BOR and DOL and can be accessed on the P20 WIN website at: http://www.ct.edu/files/pdfs/P20-WIN-Data-Management-Procedure.pdf. Other documents and agreements specific to this analysis are located under 'Data Request 0014' at the Requests and Reports page within the P20 WIN website: http://www.ct.edu/p20win/requests.

There are three key characteristics of P20 WIN that maximize data security and student privacy. First, there is no centralized data warehouse where linked data are stored; therefore, there is no permanent location where linked data can be breached. Instead, each agency retains ownership of its source data, responsibility for its management and control over how it is used. Second, a two-step process is used for linking data that retains separation between information that might identify an individual (such as name) and information about that individual (such as gender, race or program studied). These different types of data are never brought together during the data exchange, matching or analytical processes; therefore, no-one can see identities of specific individuals in the data. Third, there is a high degree of control over data requests. Only designated authorized representatives of state and local educational agencies or other federal officials are approved to conduct analysis on the redacted data. The P20 WIN process for linking data maximize data security.

In addition to having processes to maintain data security, the Family Education Rights and Privacy Act (FERPA) requires that a written data sharing agreement be established when data from student records are shared. Each of these agreements sets a timeline for data destruction and provides for additional securities such as how data are to be secured and managed. In addition to the restrictions for education data, limitations are also established by state law for wage and employment data obtained through unemployment insurance records (UI). P20 WIN data sharing agreements, procedures and policies are in full compliance with both state and federal law for education and UI data.

CSCU data about graduates were matched to unemployment insurance (UI) data from the Connecticut State Department of Labor (DOL). Graduates were included if they completed a credential or degree at any time during academic years 2009-10 through 2016-17. The data tables and summary analysis contain wage and employment data at the system and institution levels with detailed data by program of study, using the Classification of Instructional Program Codes (CIP codes), and by degree type (e.g. Associates, Bachelor's, etc.). Additional categories included in the data tables include gender, race and ethnicity, Connecticut residency and whether individuals received a Pell Grant or Governor's scholarship. Counts of individuals found to be employed in Connecticut, their average quarterly wages and difference in wages over time are provided at four points in time: one quarter prior to the beginning of the program of study (Pre-Q1), one quarter after graduation (PQ1), three quarters after graduation (PQ3) and eight quarters after graduation (PQ8). Wages are available as an estimated annualized wage and as actual wages earned in a calendar year by each cohort of graduates.

It is necessary to keep in mind that these reports provide only a high-level view of CSCU institutions and student outcomes. On their own, this report and the underlying data tables do not justify action. Rather, this information opens the doorway for further discussion and analysis. There are critical limitations to the source data sets that need to be understood and considered when utilizing this report and the underlying source data tables. See section labeled "Important Notes & Limitations" above.

Key differences from the last report

- This report is based on three data tables instead of five; however, the data from the five are combined so that no important content has been omitted.
- Additional columns of data are available. For example, median wages are provided along with average wages for each point in time, and Table A contains an estimated annual wage based on wages earned in the eighth quarter after graduation.
- Additional categories of data are available including Connecticut residency, and the receipt of a Pell Grant or Connecticut's Governor's scholarship.
- A new table, Table C, is available that provides actual wages earned in each calendar year after the academic year of completion. For those individuals who completed their credential in the 2009-10 academic year, Table C provides actual wages earned in calendar years 2011 through 2016. For individuals who completed their credential in the 2012-13 academic year, Table C provides actual wages earned in calendar years 2014 through 2016.
- A concept from the US Census of "stable employment" was introduced and utilized in calculations of average and median wages. See the Data Glossary for a description of "stable employment" and how it applies to the different metrics.
- In addition to providing wage and employment metrics for CSCU, these same data are available for all of the Connecticut public postsecondary institutions in aggregated tables. These tables combine the data from CSCU and UCONN.

Technical Notes

- Median wages are used instead of average wages (a.k.a. mean wages). The median shows the mid-point of a data set and is considered a better predictor of central tendency. Averages can be skewed higher or lower than the mid-point if there are outliers in the data. For example, if there are a few individuals with very low wages compared to the rest of the graduates in the data set, then these low wages will pull down the overall average. On the other hand, the median provides the middle wage receive regardless of whether there are very high or low earners in the set.
- Counts of graduates are public information; therefore, all counts of graduates are included.
- Employment data are suppressed when the cell size is less than six and in instances where secondary cell suppression is needed to avoid situations where information about individuals may be determined through calculation. This affects the counts of individuals employed and all related wage data that would be calculated from the suppressed cell.
- If the timeframe for a person's academic program extended more than ten years, DOL used ten years as the maximum value for determining the beginning of an education program. This was done for the purpose of creating an average Program Length – which is used for individuals who do not have a start date based on their own program.

- Some community college records (<100) did not have a CIP code attached to the degree earned. Manual additions were made based on the description of these programs and their alignment to descriptions of national standard codes.
- The calculations for Pre-Quarter 1 are affected by the program start date, and the field used to determine the start date has changed between the different data requests. For this analysis, the "Participant Start Data was based off of the "Catalogue Semester" using the "Effective Date" of the census file to identify the beginning of the students' programs. Term data were pulled from the IRDB using the IRPLT, the ERDM schema and the DM_TERM_Code_T table which is different from the term data used in the prior analysis, so there may be minor improvements in counts that pertain to calculations of the Pre-quarter 1 time period.
- Across all years of graduates at all institutions, approximately 1.1% of records did not have an SSN and were, therefore, unmatchable to wage data.
- There are differences between how the four CT State Universities determine whether a student is a non-resident alien. These distinctions likely result in an undercount of students who have non-resident alien status from ECSU, SCSU and WCSU.
- When a Participant Start Date is missing, or when it is after the student graduation date or when it is earlier than ten years prior, DOL applies a calculated Program Start Date based on the average program length for other students receiving the same credential. The 'Start Date' may be after the 'Graduation Date' in situations where students return to class after the initial graduation. In the 'return' they may actually register for, take and complete additional classes or they may register but drop. This is in keeping with the process for the prior report.

Degree_ProgramLengths

DegreeCode	AvgOfProgramLength	SampleSize
AS	3.25	12
BA	3.23	5027
DR	4.44	27
MA	2.62	1285
POST-BA-CERT	2.77	35
POST-MA-CERT	3.25	242

Data Glossary

Data elements are listed in order of relevance starting with Table A.

Table	Field, Prefix, or Suffix	Definition / Calculation
A, 2B	**Sector**	- CCC = all community colleges - COSC = Charter Oak State College - CSU = all state universities
A, 2B	**College Name**	The field "College Name" contains both individual college names (e.g. Asnuntuck Community College) and sector level groups (e.g. All Community Colleges)
A, 2B	**Academic Year**	YYYY-YYYY. The academic year or range of years in which a student's credential completion was reported to IPEDS. In Table 2B, the academic year is a three year time period in order to provide employment values for programs that are very small. Cohorts of graduates will be grouped in this fashion: 2010-2011-2012 2011-2012-2013 2012-2013-2014. Data reported for these combined cohorts would be the same as for the other categories
A	**DemographicGroup**	The higher level group corresponding to the Demographic Category.
A, 2B, C	**DemogCode**	Demographic Code = a 3 digit code to represent demographic categories like gender, race and ethnicity. Also includes residency status, financial aid status and a total grouping. A = total C = Residency E = Credential F = Financial Aid G = Gender R = Race/Ethnicity
A, 2B, C	**DemogCategory**	Detailed name for the corresponding Demographic code
C	**Residence Desc**	Residence Description indicates whether an individual's permanent address at the time if graduation was in Connecticut or not.
A	**Pell Recipient**	Individuals are counted if they received any Pell dollars at any point during the given academic program
A	**No Pell Received**	Individuals are counted if they did not receive any Pell dollars at any point during the given academic program
A	**Governor's Scholarship**	Individuals are counted if they received state scholarship funding of any time during the academic programs.

Table	Field, Prefix, or Suffix	Definition / Calculation
2B	**CIP Level**	The Classification of Instructional Program (CIP) level indicates whether the CIP codes is provided in its 2 digit or 6 digit form.
2B	**CIP Code**	The Classification of Instructional Program (CIP) code is a nationally recognized code for identifying fields of study. https://nces.ed.gov/pubs2002/cip2000/
2B	**Program**	Program is the text name for the corresponding CIP Code.
A, 2B	**Pre-Q1**	The quarter before an individual began the education program for the given credential. For example, if an individual completed an Associate Degree in May of 2014 but started the Associate Program in October of 2012, Pre-Q1 would be the second calendar quarter of 2012, July-September 2012.
A, 2B	**Post Q1 or Q1**	The quarter after an individual completed the given credential. For example, if an individual completed an Associate Degree in May of 2014, Post-Q1 would be the third calendar quarter of 2014, July-September 2014.
A, 2B	**Post Q3 or Q3**	The third quarter after an individual completed the given credential. For example, if an individual completed an Associate Degree in May of 2014, Post-Q3 would be the first calendar quarter of 2015, January-March 2015.
A, 2B	**Post Q8 or Q8**	The third quarter after an individual completed the given credential. For example, if an individual completed an Associate Degree in May of 2014, Post-Q8 would be the second calendar quarter of 2016, April-June 2016.
A, 2B	**Total Grad Count**	The total number of graduates for a given category as reported by the postsecondary institution.
A, 2B, C	**# Emp** **Emp** **EmpGrads** **Employed** **Number Employed**	Count of individuals found employed in Connecticut during a given time period
A, 2B, C	**Stable Emp** **SEmp** **SEmployed** **Stbl_Emp** **Stbl_Employed**	Count or percent of individuals employed during a given quarter (t) using a 'stable' definition of employment. The 'stable' approach counts individuals as employed and uses their wages in calculations if they were employed in the quarter of interest (t), in the quarter prior to (t-1) and also in the quarter after the quarter of interest (t+1). The definition of stable employment developed by for the US Census was modified slightly here to account for normal employment patterns prior to when individuals begin their education program and immediately after completion.

Table	Field, Prefix, or Suffix	Definition / Calculation
	Continued from above	- **Pre-Q1:** individuals are counted as stable employed if they earned any wages in Pre-Q1 (t) - **Post-Q1:** individuals are counted as stable employed if they earned any wages in Post Q1 (t) and the quarter after Post Q1 (t+1). - **Post-Q3:** individuals are counted as stable employed if they earned any wages in the quarter prior to Post-Q3 (t-1), in Post-Q3 itself (t) and in the quarter after Post-Q3 (t+1) - **Post-Q8:** individuals are counted as stable employed if they earned any wages in the quarter prior to Post-Q8 (t-1), in Post-Q8 itself (t) and in the quarter after Post-Q8 (t+1) - **StblEmpYYYY (e.g. StblEmp2013):** individuals are counted as stable employed if they earned any wages in the quarter prior to a given year (t-1), each quarter of the calendar year (t) and the first quarter after the given year (t+1).
A, 2B, C	**AWage** **AvgWages**	AWage equals the average of wages earned by a group of individuals who are counted for a given time period. Those counted differ based on the point in time. - **AWage_PreQ1**: Wages are averaged for individuals who earned wages in CT in Pre-Q1 (t) - **AWage_PostQ1**: Wages earned in Post Q1 are averaged only for individuals who earned wages in both PostQ1 (t) and PostQ2 (t+1) - **AWage_PostQ3**: Wages earned in PostQ3 are averaged only for individuals who earned wages in Post Q2 (t-1), Post Q3 (t) and Post Q4 (t+1) - **AWage_PostQ8**: Wages earned in PostQ8 are averaged only for individuals who earned wages in Post Q7 (t-1), Post Q8 (t) and Post Q9 (t+1) - **AvgWagesYYYY** (e.g. AvgWages2011): Wages earned in the given calendar year are averaged only for individuals who met the definition of being stable employed during that year.
A, 2B, C	**MWage** **MedWages**	The MWage equals the median of wages earned by a group of individuals who are counted for a given time period. Those counted differ based on the point in time. - **MWage_PreQ1**: The median wage is calculated in Post Q1 for individuals who earned wages in CT in Pre-Q1 (t) - **MWage_PostQ1**: The median wage is calculated in Post Q1 for individuals who earned wages in both PostQ1 (t) and PostQ2 (t+1)

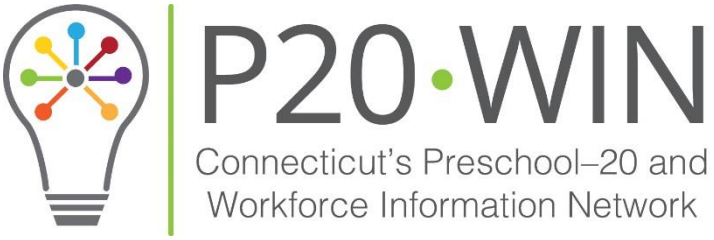
Table	Field, Prefix, or Suffix	Definition / Calculation
	Continued from above	- **MWage_PostQ3**: The median wage is calculated in PostQ3 for individuals who earned wages in Post Q2 (t-1), Post Q3 (t) and Post Q4 (t+1) - **MWage_PostQ8**: The median wage is calculated in PostQ8 for individuals who earned wages in Post Q7 (t-1), Post Q8 (t) and Post Q9 (t+1) - **MedWagesYYYY** (e.g. MedWages2011): the median of Wages earned in the given calendar year are calculated only for individuals who met the definition of being stable employed during that year.
2B	**Emp PreQ1+Q3** **BothPre+PostQ3** **EmpBoth_Pre_PostQ3** **Pre_Post Q3**	Count or percentage of individuals employed both at PreQ1 (one quarter prior to the beginning of the education program from which they received the given credential, t) and Post Q3 (3 quarters past completion of the given credential using the 'stable' employment definition, t-1, t, t+1)
2B	**# Emp PreQ1+Q8** **EmpBoth_Pre_PostQ8** **EmpBoth_Pre_PostQ8** **Pre_Post Q8**	Count or percentage of individuals employed both at PreQ1 (one quarter prior to the beginning of the education program from which they received the given credential, t) and Post Q8 (8 quarters past completion of the given credential using the 'stable' employment definition, t-1, t, t+1) NOTE: Data are not available 8 quarters out for cohorts of graduates beyond 2015
2B	**AWageDiff**	AWageDiff equals the average of the wage differences for individuals who earned wages at two points in time (e.g. either PreQ1 and PreQ3 or PreQ1 and PreQ8)
2B	**MWageDiff**	AWageDiff equals the median of the wage differences for individuals who earned wages at two points in time (e.g. either PreQ1 and PreQ3 or PreQ1 and PreQ8)
2B	**AnnAWages**	Annual Average Wages: This is an estimated annual wage calculated by multiplying by four the average wages earned for individuals who were found to meet the definition of 'stable employment' in Q8.
2B	**AnnMWages**	Annual Median Wages: This is an estimated median wage calculated by multiplying by four the median wages earned for individuals who were found to meet the definition of 'stable employment' in Q8.

Table	Field, Prefix, or Suffix	Definition / Calculation
C	**Table C - Stable Employed**	In determining who to count as 'Stable Employed' for a calendar year, count individuals who were stable employed for the whole year including 1 quarter prior to and 1 quarter after the calendar year. Therefore, those counted for 2014 would have had wages > $0 in each quarter from 2013 Q4, 2014 Q1 – Q4, and 2015 Q1.
C	**Table C - Years**	The 'year' for the annual wage is a calendar year, and it should be the calendar year that begins after the academic year of graduation. So, if someone completed a credential in December 2012 or May 2013, both of these are within the 2012-13 academic year. Wages for the 1st year calculation would be to add up everything earned in 2014: 1/1/2014 – 12/31/2014. Wages for the 2nd year would be 1/1/2015 – 12/31/2015, etc.

Appendix A

This table provides information about the availability of unemployment insurance data through the Connecticut Department of Labor. Due to the schedule by which employers are required to report employment and wages, data are not immediately available resulting in a lag between when a quarter occurs and when data are available for that quarter. At the time when data were pulled for this report, the data were unavailable for the quarters that are shaded. This is why all of the data for Quarter 8 past graduation is unavailable for graduates from years 2015-16 and 2016-17.

			1 Quarter past		3 Quarters past		8 quarters past	
Academic Year	PS Graduation term	Quarter of PS Graduation	1 quarter past graduation	best by:	3 quarters past graduation	best by	8 quarters past graduation	best by
2009-10	Aug, 2009	Q3 - 2009	Q4 - 2009	Q1 -2010	Q2 -2010	Q3 - 2010	Q3 - 2011	Q4 - 2011
2009-10	Dec, 2009	Q4 - 2009	Q1 - 2010	Q2 -2010	Q3 -2010	Q4 - 2010	Q4 - 2011	Q1 - 2012
2009-10	May, 2010	Q2 - 2010	Q3 - 2010	Q4 -2010	Q1 -2011	Q2 - 2011	Q2 - 2012	Q3 - 2012
2010-11	Aug, 2010	Q3 - 2010	Q4 - 2010	Q1 -2010	Q2 -2011	Q3 - 2011	Q3 - 2012	Q4 - 2012
2010-11	Dec, 2010	Q4 - 2010	Q1 - 2011	Q2 -2011	Q3 -2011	Q4 - 2011	Q4 - 2012	Q1 - 2013
2010-11	May, 2011	Q2 - 2011	Q3 - 2011	Q4 -2011	Q1 -2012	Q2 - 2012	Q2 - 2013	Q3 - 2013
2011-12	Aug, 2011	Q3 - 2011	Q4 - 2011	Q1 -2011	Q2 -2012	Q3 - 2012	Q3 - 2013	Q4- 2013
2011-12	Dec, 2011	Q4 - 2011	Q1 - 2012	Q2 -2012	Q3 -2012	Q4 - 2012	Q4 - 2013	Q1 - 2014
2011-12	May, 2012	Q2 - 2012	Q3 - 2012	Q4 -2012	Q1 -2013	Q2 - 2013	Q2 - 2014	Q3 - 2014
2012-13	Aug, 2012	Q3 - 2012	Q4 - 2012	Q1 -2013	Q2 -2013	Q3 - 2013	Q3 - 2014	Q4 - 2014
2012-13	Dec, 2012	Q4 - 2012	Q1 - 2013	Q2 -2013	Q3 -2013	Q4 - 2013	Q4 - 2014	Q1 - 2014
2012-13	May, 2013	Q2 - 2013	Q3 - 2013	Q4 -2013	Q1 -2014	Q2 - 2104	Q2 - 2015	Q3 - 2015
2013-14	Aug, 2013	Q3 - 2013	Q4 - 2013	Q1 -2014	Q2 -2014	Q3 - 2014	Q3 - 2015	Q4 - 2015
2013-14	Dec, 2013	Q4 - 2013	Q1 - 2014	Q2 -2014	Q3 -2014	Q4 - 2014	Q4 - 2015	Q1 - 2015
2013-14	May, 2014	Q2 - 2014	Q3 - 2014	Q4 -2014	Q1 -2015	Q2 - 2015	Q2 - 2016	Q3 - 2016
2014-15	Aug, 2014	Q3 - 2014	Q4 - 2014	Q1 - 2015	Q2 - 2015	Q3 - 2015	Q3 - 2016	Q4 - 2016
2014-15	Dec, 2014	Q4 - 2014	Q1 - 2015	Q2 - 2015	Q3 - 2015	Q4 - 2015	Q4 - 2016	Q1 - 2017
2014-15	May, 2015	Q2 - 2015	Q3 - 2015	Q4 - 2015	Q1 - 2016	Q2 - 2016	Q2 - 2017	Q3 - 2017
2015-16	Aug, 2015	Q3 - 2015	Q4 - 2015	Q1 -2016	Q2 -2016	Q3 - 2016	Q3 - 2017	Q4- 2017
2015-16	Dec, 2015	Q4 - 2015	Q1 - 2016	Q2 -2016	Q3 -2016	Q4 - 2016	Q4 - 2017	Q1 - 2018
2015-16	May, 2016	Q2 - 2016	Q3 - 2016	Q4 -2016	Q1 -2017	Q2 - 2017	Q2 - 2018	Q3 - 2018
2016-17	Aug, 2016	Q3 - 2016	Q4 - 2016	Q1 -2017	Q2 -2017	Q3 - 2017	Q3 - 2018	Q4- 2018
2016-17	Dec, 2016	Q4 - 2016	Q1 - 2017	Q2 -2017	Q3 -2017	Q4 - 2017	Q4 - 2018	Q1 - 2019
2016-17	May, 2017	Q2 - 2017	Q3 - 2017	Q4 -2017	Q1 -2018	Q2 - 2018	Q2 - 2019	Q3 - 2019



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